

ABSTRACT

In one embodiment a macroscopically-sized specimen is illuminated with radiations of selectable multiple intensities and frequencies for viewing along a single viewing axis. A stage supports specimen to be observed. First and second illumination sources provide respective first and second radiations at predetermined different colors, permissively of different intensities. A special "bifurcated" fiber optic cable receives the first radiation into a first one of two radiation-receiving, or input, ends, and the second radiation into a second one of two radiation-receiving, or input, ends, so as to produce at each of at least two radiation-emitting, or output, ends an illuminating beam in which the first and the second radiations are mixed. The intensities and colors of both radiations are controllable. The multi-color controlled-intensity radiation beams are particularly useful for excitation of multiple different fluorescent agents, and differently fluorescing regions, within a biological specimen such as, by way of example, a tumorous mouse..